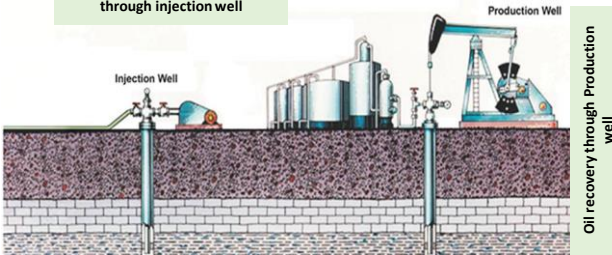


Tech-Transfer to IRS-ONGC

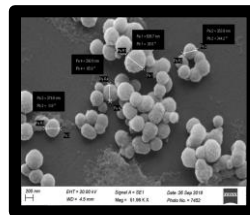
PetroBee: Unique Microbes to Enhance Oil Recovery

Microbial Enhanced Oil Recovery (MEOR), a low-cost tertiary oil recovery process involves the injection of efficient microbes along with suitable nutrients into the reservoir to promote *in situ* microbial growth and desired metabolite production, for enhancing oil recovery

Injection of Microbes and nutrients through injection well



Microbial process for enhanced oil recovery from high temperature (> 100°C) depleting oil reservoirs



Thermococcus petroboostus 101C5



Thermostable nutrient medium



Highest light oil recovery of 56.5% was obtained by 101C5 at 101 °C

Field trial of PetroBee in South kadi, Gujarat



Microfiltration assembly – (coarse, 5µ and 0.22 µ)



Nutrient medium sterilization



Implementation of MEOR technology



Inoculation of ARI-Culture in Nutrient Medium

ARI, in collaboration with IRS-ONGC, developed an effective MEOR process suitable for harsh reservoir conditions, exhibiting a striking oil recovery rate improvement of >200%

- ✓ Oil reservoir-compatible MEOR process
- ✓ Safe Microbial Formulation for Oilfields
- ✓ Efficient in recovering crude oil from high temperature oil reservoirs of the Indian subcontinent (> 90 °C)
- ✓ Technology to Reduce India's Foreign Oil Dependency

~ Rs 3 Lakhs
(Customized Nutrient Suite)



~ Rs 3 Lakh
(Infrastructure)



~ 107kl (673 barrels)
Oil Recovery After MEOR Application



~ 22 Lakhs

Profit incurred : "3.6 times" the amount invested